

**Deposition Designations for:
TERRY M. SPEAR
July 29, 2009**

Deposition Designation Key

**Arrowood = Arrowood Indem. Co.
f/k/a Royal Indem. Co. (Light Green)**

BNSF = BNSF Railway Co. (Pink)

**Certain Plan Objectors “CPO” = Government Employees Insurance Co.; Republic Insurance Co.
n/k/a Starr Indemnity and Liability Co.; OneBeacon America Insurance Co.; Seaton Insurance
Co.; Fireman’s Fund Insurance Co.; Allianz S.p.A. f/k/a Riunione Adriatica Di Sicurta; and Allianz
SE f/k/a Allianz Aktiengesellschaft; Maryland Casualty Co.; Zurich Insurance Co.; and Zurich
International (Bermuda) Ltd.; Continental Casualty Co. and Continental Insurance Co. and
related subsidiaries and affiliates; Federal Insurance Co.; and AXA Belgium as successor to Royal
Belge SA (Orange)**

CNA = Continental Cas. Co & Continental Ins. Co. (Red)

**FFIC = Fireman Funds Ins. Co. (Green)
FFIC SC = Fireman Funds Ins. Co. “Surety Claims” (Green)**

GR = Government Employees Ins. Co.; Republic Ins. Co. n/k/a Starr Indemnity and Liability Co.

Libby = Libby Claimants (Black)

OBS = OneBeacon America Ins. Co. and Seaton Ins. Co. (Brown)

PP = Plan Proponents (Blue)

Montana = State of Montana (Magenta)

Travelers = Travelers Cas. and Surety Cos. (Purple)

UCC & BLG = Unsecured Creditors’ Committee & Bank Lenders Group (Lavender)

AFNE = Assume Fact Not in Evidence

AO = Attorney Objection

BE = Best Evidence

Cum. = Cumulative

Ctr = Counter Designation

Ctr-Ctr = Counter-Counter

ET = Expert Testimony

F = Foundation

408 = Violation of FRE 408

H = Hearsay

IH - Incomplete Hypothetical

L = Leading

LA = Legal Argument

LC = Legal Conclusion

LPK - Lacks Personal Knowledge

LO = Seeking Legal Opinion

NT = Not Testimony

Obj: = Objection

R = Relevance

S = Speculative

UP = Unfairly Prejudicial under Rule 403

V = Vague

TERRY M. SPEAR, Ph.D.

July 29, 2009

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Page 54	Page 56
<p>1 that there is a potential -- there is environmental -- or 2 disease caused from environmental exposure to Libby 3 amphibole. 4 Q. Okay. But that does not -- 5 A. As well as, you know, I mean, basically, the 6 highest rates were in the working population. In their 7 exposure category where they could not identify a pathway, 8 that percentage was 6.7 percent, so that's roughly 3 times 9 higher than what you would expect to find in other types 10 of population-based studies that have been done looking at 11 the prevalence of abnormalities of the lung associated 12 with asbestos. 13 Q. Okay. That paper, however, did not inform 14 your opinion as to whether pleural disease occurs more 15 quickly in Libby, though, correct? 16 A. That's probably correct. 17 Q. Okay. Nor does the Peipens paper inform your 18 opinion as to whether Libby pleural disease was more 19 painful, correct? 20 A. Correct. 21 Q. Does it inform your -- does the Peipens paper 22 inform your opinion as to whether pleural disease in Libby 23 is more progressive? 24 A. Well, I don't know how to answer that 25 question, I guess -- probably not.</p>	<p>1 Q. Okay. Sitting here today, does the 2004 paper 2 in any way inform your understanding as to whether pleural 3 disease in Libby is more painful? 4 A. No. 5 Q. Sitting here today, does the 2004 paper in any 6 way inform your opinion as to whether pleural disease in 7 Libby is more progressive? 8 A. I believe it does, yes. I think that 9 progression is discussed. I don't know if -- I don't 10 remember the specifics of that paper. 11 Q. So sitting here today, you cannot think of a 12 specific way in which that paper informs your 13 understanding of progression of disease in Libby? 14 A. I can't remember specifically how it discusses 15 that topic as I sit here today. 16 Q. Okay. And the 2004 paper by Whitehouse does 17 not inform your opinion about the fatality involved with 18 pleural disease in Libby, correct? 19 A. Not that I know of. 20 Q. Okay. You mentioned on a couple of occasions 21 Dr. Black, your conversations with Dr. Black informed your 22 opinions, correct? 23 A. Yes. 24 Q. And who is Dr. Black? 25 A. Dr. Black works in the card clinic up in</p>
Page 55	Page 57
<p>1 Q. Okay. And it certainly doesn't impact your 2 opinion as to whether pleural disease in Libby was more 3 fatal, correct? 4 A. No. 5 Q. Okay. And then you mention Dr. Whitehouse's 6 paper. Which paper was that? 7 A. Well, he's had several. I've looked at 8 several of his recent publications. 9 Q. You published one in 2004, correct? 10 A. Yes. 11 Q. And you also published a paper in 2008 12 regarding mesothelioma, correct? 13 A. Yes. 14 Q. So the 2004 paper, how did that paper inform 15 your opinions as about pleural disease in Libby? 16 A. I believe that in -- Dr. Whitehouse's papers 17 describe the disease rates and the effects on pulmonary 18 function, and I believe the 2004 paper talks about the 19 pleural disease rate, but I could be wrong. 20 Q. Okay. Does it inform your opinion as to 21 whether -- does the Whitehouse 2004 paper inform your 22 opinion as to whether pleural disease occurs more quickly 23 in Libby? 24 A. I don't remember if that was discussed in the 25 paper or not.</p>	<p>1 Libby. 2 Q. What is his role there? 3 A. I believe he's the director or he runs the 4 card clinic. 5 Q. Okay, runs the card clinic. And what kind of 6 doctor is Dr. Black? 7 A. I don't know. 8 Q. Is he a pulmonologist? 9 A. I don't know for sure if he's a pulmonologist. 10 I guess I haven't looked at his resume. 11 Q. Okay. Do you think that's important, what 12 kind of doctor -- a person, a doctor's training, do you 13 think that's relevant to their work as a doctor? 14 A. I suppose it could be, sure. 15 Q. Okay. And sitting here today, you're not 16 aware of any pulmonary training Dr. Black has had, 17 correct? 18 A. No. Like I say, I haven't looked at his 19 resume. 20 Q. Okay. Were you aware that Dr. Black was 21 trained as a pediatrician? 22 A. No. 23 Q. Okay. Do you believe -- okay, so you weren't 24 aware of that. 25 A. No.</p>

PP

Page 58

1 Q. Okay. And you weren't aware that he worked at
2 St. John's Hospitals -- St. John's Hospital for many years
3 in pediatrics, correct?

4 A. No.

5 Q. Okay. You weren't aware that he never did a
6 residency or fellowship in radiology, pulmonary medicine,
7 or occupational medicine, correct?

8 A. Correct.

9 Q. Okay. But your conversations with him have
10 informed your opinions about pleural disease in Libby?

11 A. And what he's seeing in patients that they're
12 screening through the card clinic.

13 Q. Okay. Again, though, as you said it earlier,
14 you're not a medical professional. Your opinions are
15 based on conversations with Dr. Brad Black in review of
16 the studies that we mentioned earlier, correct?

17 MR. LEWIS: Objection. This is a summary of
18 his testimony. It's improper, it's compound. And
19 therefore, it's an improper question, and I object to the
20 form of the question.

21 Q. (By Mr. Stansbury) You may answer.

22 A. Yeah, in forming my opinions related to the
23 toxicity of the Libby amphibole, I think is what I said is
24 that those are the articles which I've read most recently,
25 but not all of the articles I've read pertaining to

Page 59

1 toxicity of asbestos, including Libby amphibole.

2 Q. But sitting here today, there's no other
3 article you can think of that informs any opinions you
4 have about any pleural disease in Libby?

5 A. No.

6 Q. Okay. Do you have any specific opinions
7 about -- let me back up a second. Are you familiar with
8 the term "diffuse pleural thickening"?

9 A. Well, I've seen the term.

10 Q. Do you have any opinions about diffuse pleural
11 thickening?

12 A. No.

13 Q. Okay. That's not something you intend to
14 opine about at the confirmation hearing, is it?

15 A. No.

16 Q. Okay. And you're not an epidemiologist
17 either, correct?

18 A. Correct.

19 Q. You have no education that qualifies you to
20 opine on epidemiology, correct?

21 A. Correct.

22 Q. Do you have an opinion on the levels of
23 exposure that cause asbestos-related diseases?

24 A. Yes.

25 Q. And what is the basis of that opinion?

Page 60

1 A. Well, the basis of that opinion, again, is my
2 review of the medical literature and scientific journal
3 articles.

4 Q. Do you believe that epidemiology should be the
5 basis of establishing which exposure levels can cause
6 disease?

7 A. I do believe that is one part of it, but it
8 certainly isn't the only part of it.

9 Q. What other parts are there?

10 A. Well, there are -- basic clinical studies is
11 another part of it, what is being seen in clinics with
12 patients. Some of that may not appear as an epidemiologic
13 study. And, I guess, other types of studies in different
14 types of plants where they're seeing disease rates or
15 mortality rates that may or may not be considered an
16 epidemiologic study are important from an industrial
17 hygiene standpoint.

18 Q. So your opinions on which exposure levels can
19 cause disease are based in part on case reports of disease
20 cases that have occurred in various locations?

21 A. In part. That could be part of it, sure.

22 Q. Do you give greater weight to an
23 epidemiological study than you would to a case report?

24 A. I think if it's a well-done epidemiologic
25 study it would be given more weight.

Page 61

1 Q. Okay. But your opinion on which exposure
2 levels can cause disease, they're based on your review of
3 literature, correct?

4 A. And my, yeah, work with asbestos; my 20 or 30
5 years of an industrial hygienist reading literature.

6 Q. But as an industrial hygienist, your role is
7 to focus on the actual exposures themselves and preventing
8 those exposures, correct?

9 A. That's a big part of our job, yes.

10 Q. Okay. Do industrial hygienists offer opinions
11 in the course of their role as industrial hygienists as to
12 which levels of exposures can cause disease?

13 A. Well, if they were seeing disease rates within
14 the plant they're working with, I think their information
15 would be important to establishing what the level of
16 exposure can be that causes disease, sure.

17 Q. But what information would that be?

18 A. Well, from there, if they're sampling a
19 workplace and they have medical records saying that -- or
20 medical exams showing a certain disease rate in a working
21 population, then, sure, that provides information of
22 exposure that could potentially cause disease.

23 Q. But is it the -- strike that.

24 Is it the industrial hygienist, though, who would
25 take those exposure data as well as the medical

Page 130	Page 132
<p>1 VIDEOGRAPHER: This is Tape 3 of the 2 videotaped deposition of Dr. Terry Spear. 3 The time is 11:47. We're on the record. 4 BY MR. STANSBURY: 5 Q. Okay. Dr. Spear, can we move to Paragraph 52, 6 please. And in 52 and 53, there are statements here 7 regarding the toxicity of asbestos from Libby; is that 8 correct, sir? 9 A. Yes. 10 Q. And once again, you are not a toxicologist, 11 correct? 12 A. That's correct. 13 Q. You don't intend to offer any specific 14 opinions about toxicity at the confirmation hearing, do 15 you? 16 A. I cannot offer any opinions on toxicology, no. 17 Q. Okay. Dr. Spear, have you reviewed the 18 Amandus paper, 1987? 19 A. I have at one point in time, yes. 20 Q. Okay. Who is Harlan Amandus? 21 A. I'm sorry, who is he? 22 Q. Yeah. Do you know who he is? 23 A. No. 24 Q. Okay. You've never met him before? 25 A. I've never met him.</p>	<p>1 correct? 2 A. That's correct. 3 Q. Because in order to determine something like 4 toxicity, you need to know information about exposure, 5 correct? 6 A. Yes. 7 Q. Okay. And this is clearly the paper of the 8 three most relevant to your area of expertise, is it not? 9 A. I'm sorry, by "three" -- 10 Q. You're aware that there was a mortality study 11 and a morbidity study also done by Amandus, correct? 12 A. Yes. 13 Q. Okay. And so the papers that look at, those 14 papers, the morbidity study, are you familiar with that? 15 A. Yes. 16 Q. Okay. That looked at radiographic 17 abnormalities in the working population and correlated 18 that to exposures, correct? 19 A. Yes. 20 Q. The mortality study looked at mortality within 21 a worker cohort and correlated that with exposure, 22 correct? 23 A. Yes. 24 Q. Both papers were dependent upon the exposure 25 data contained in this paper, correct?</p>
Page 131	Page 133
<p>1 Q. You are aware that he was working at NIOSH at 2 the time he wrote that paper, correct? 3 A. Yes. 4 Q. NIOSH is the National Institute of 5 Occupational Safety and Health; is that correct? 6 A. Yes. 7 Q. And that is part of the United States 8 Government, is it not? 9 A. Yes. 10 (Document marked Deposition 11 Exhibit No. 7 for identification.) 12 BY MR. STANSBURY: 13 Q. Okay. I'm handing you what's been marked as 14 Exhibit 7. Exhibit 7 is "The Morbidity and Mortality of 15 Vermiculite Miners and Millers Exposed to Tremolite: Part 16 I. Exposure Estimates"; authors: Amandus, Wheeler, 17 Jankovic, and Tucker; published in 1987 in the American 18 Journal of Industrial Medicine. 19 Did I read that correctly, sir? 20 A. Yes. 21 Q. Okay. And do you -- is this familiar with 22 you? Do you recognize this document? 23 A. Yes. 24 Q. Okay. This is the paper by Amandus that 25 specifically focuses on establishing the exposures,</p>	<p>1 A. That's correct. 2 Q. And of the three papers, this is the paper 3 that primary falls within your area of expertise, correct? 4 A. Well, in terms of exposure measurement, yes. 5 Q. Yes, okay. And do you have any general 6 opinions regarding this paper? 7 A. Well, I've read this paper, you know, 8 associated with other W.R. Grace cases, and my general 9 opinion pertaining to any exposure measurements at the 10 mine site, or it may be if it was done outside the mine 11 site in Libby, is that during this time frame, they were 12 basically looking at PCM analysis. And in my opinion, the 13 fibers that were less than 5 micrometers in length are not 14 being factored into the exposure. 15 Q. Five micrometers or five microns? 16 A. The same thing: Microns/micrometers. 17 Q. Micrometers is the same -- okay, got it. 18 So you believe that this paper should have looked at 19 fibers with -- that were less than 5 microns in length, 20 correct? 21 A. Yeah. As an industrial hygienist, my opinion 22 is that the -- that fibers shorter than 5 micrometers can 23 be toxic, but we don't know that they're not toxic. And 24 I'm uncomfortable with not considering that in either risk 25 assessment, or evaluation, or what have you.</p>

<p>Page 134</p> <p>PP 1 Q. Are you aware of other epidemiological studies 2 that only counted fibers longer than 5 microns in length? 3 A. That's been the standard practice. 4 Q. Okay. So this paper is in no way an outlier, 5 so to speak, insofar as they only counted fibers longer 6 than 5 micrometers, correct? 7 A. Correct. 8 Q. It's just something that you personally, 9 Dr. Spear, do not agree with, correct? 10 A. Well, not just me personally, but there's an 11 accumulating -- I mean I think that, hopefully, the risk 12 of asbestos will eventually look at short fibers, not just 13 long fibers. The reason that they were looking at long 14 fibers was simply due to the analytical sensitivity of the 15 method. OSHA's current standard of 0.1 fibers per cc is 16 that level because that is the level of analytical 17 sensitivity; in other words, we have no reliability if 18 we're trying to quantify fibers at lower levels. And so 19 hopefully as technology increases and we can start more 20 consistently evaluating all fibers, then the risk will 21 take into account short fibers. That's my opinion. 22 Q. Okay. So, you know, we've already 23 established, correct, that it is common in industrial 24 hygiene literature to report only those asbestos fibers 25 that are longer than 5 microns in length, correct?</p>	<p>Page 136</p> <p>1 A. Yes. 2 Q. When they died, correct? 3 A. Yes. 4 Q. And information related to that. And that 5 mortality, it becomes -- is compared to their exposure in 6 order to drive the toxicity of the substance, correct? 7 A. Yes. 8 Q. Okay. And so if you were to do an analysis 9 looking at fibers at level "X", given a certain level of 10 the mortality, and then you were to derive a toxicity 11 factor - we can assume that you've just done that for a 12 moment because I don't want to ask too long of a question 13 - but that makes sense, correct? 14 A. Kind of, I guess. 15 Q. Well, determining -- let me make sure we're on 16 the same page. You determine toxicity based on certain 17 exposure levels, correct? 18 A. Yes, and length of exposure. 19 Q. And length of exposure. So you get cumulative 20 exposure, correct? 21 A. Yes. 22 Q. So if the exposure levels are higher at the 23 same length of exposure, you're going to have higher 24 cumulative exposure, correct? 25 A. Yes.</p>
<p>Page 135</p> <p>PP 1 A. Yes. 2 Q. Okay. However, if you were to report all 3 fibers, including those that are less than 5 microns, that 4 would, typically, have the effect to increase the amount 5 of fibers that are counted, correct? 6 A. Yes. 7 Q. Okay. So the exposures would appear higher, 8 correct? 9 A. Well, it would be representative of what a 10 person breathes in, whether they're short fibers or long 11 fibers, yes. 12 Q. Okay. But just to make sure we're clear, so 13 let's say somebody had 5 fibers per cc only counting 14 fibers that were 5 microns or longer, if you were to count 15 all fibers, you would expect that person to have a higher 16 exposure measurement, correct? 17 A. Yes. 18 Q. Okay. And although we discussed earlier 19 you're not a toxicologist or an epidemiologist, but as an 20 industrial hygienist, you do understand how exposure 21 quantifications fit into a toxicology analysis, correct? 22 A. Yes. 23 Q. Okay. And one of the data points, for 24 example, on a mortality study would be actual mortality, 25 the people who have died, correct?</p>	<p>Page 137</p> <p>PP 1 Q. And thank you for pointing this out. It's 2 that accumulative exposure that is then used and compared 3 against mortality to derive the toxicity of the substance, 4 correct? 5 A. Yes. 6 Q. And that's not specific to asbestos. This is 7 the way you would approach any type of exposure to a 8 hazard if you wanted to derive the toxicity, correct? 9 A. That's correct. 10 Q. Okay. So if you were to -- when evaluating 11 that initial exposure, if you were to include additional 12 fibers, let's say shorter fibers, that would give you a 13 higher exposure measurement, correct? 14 A. Yes. 15 Q. And over the same duration, a higher 16 cumulative exposure, correct? 17 A. Yes. 18 Q. So if you were looking at the exact same 19 analysis, although now you have higher cumulative 20 exposures, that would show a lower level of toxicity for 21 the substance, would it not? 22 A. It could, but I don't think the same points 23 apply to morbidity, either, or disease rates, you know, in 24 a person, what rates actually cause disease prior to 25 mortality.</p>

<p style="text-align: right;">Page 138</p> <p>1 Q. I'm sorry, I don't follow.</p> <p>2 A. Well, I just -- I don't agree with that same</p> <p>3 philosophy in terms of you're talking about mortality</p> <p>4 studies or people dying from asbestos. I think that to</p> <p>5 determine risk of asbestos exposure in causing disease, I</p> <p>6 do think that we have to consider total exposure.</p> <p>7 Q. Okay. And I'm not contesting that at this</p> <p>8 moment. But looking at total exposure, if you do get</p> <p>9 higher exposure because you're counting additional fibers</p> <p>10 and you use that number to determine cumulative exposure,</p> <p>11 the toxicity of the substance will be lower, assuming that</p> <p>12 the mortality end points are the same, correct?</p> <p>13 A. Because of using -- I understand your point.</p> <p>14 Q. Okay. And just so I make sure I understand my</p> <p>15 own point, to the extent that Dr. Amandus, working for</p> <p>16 NIOSH, may have excluded fibers shorter than 5 microns,</p> <p>17 that would have the impact of increasing the toxicity of</p> <p>18 the Libby amphiboles based on the findings of the study,</p> <p>19 correct?</p> <p>20 MR. LEWIS: Hold on. I object to that</p> <p>21 question. That question is very ambiguous. What's the</p> <p>22 antecedent for the pronoun "that" in your question?</p> <p>23 Q. (By Mr. Stansbury) Dr. Spear, you seem to</p> <p>24 understand the question.</p> <p>25 MR. LEWIS: Well, the question -- that doesn't</p>	<p style="text-align: right;">Page 140</p> <p>1 have followed your suggested method of counting all</p> <p>2 fibers, correct?</p> <p>3 A. It could have that effect.</p> <p>4 Q. Okay. Other than the exclusion of fibers</p> <p>5 shorter than 5 microns, are there any other statements in</p> <p>6 Dr. Amandus's paper or any other findings that you find to</p> <p>7 be unsupportable scientifically?</p> <p>8 A. Well, no. It was a peer-reviewed article and,</p> <p>9 certainly, it's been referenced and cited many times.</p> <p>10 There's always questions on exposure reconstruction.</p> <p>11 Q. Okay.</p> <p>12 A. Things like that.</p> <p>13 Q. Okay. I wanted to walk through a couple parts</p> <p>14 of this paper, then. And starting on page 2, under</p> <p>15 "Exposure Measurements":</p> <p>16 "Samples of airborne dust have been taken in</p> <p>17 the mill since 1942 and in the mine since 1968. Prior to</p> <p>18 1969, 336 midge impinger samples were collected by the</p> <p>19 state of Montana primarily in the dry mill, and after</p> <p>20 1967, 4116 membrane filter samples of airborne dust were</p> <p>21 collected by federal agencies (NIOSH, MESA, and MSHA)" --</p> <p>22 NIOSH, MESA, and MSHA, just so the court reporter is clear</p> <p>23 -- "and the company in most areas of the facility (Table</p> <p>24 II). Before 1974, filter samples were either general area</p> <p>25 or short-term personal samplings collected over periods</p>
<p style="text-align: right;">Page 139</p> <p>1 make any difference whether -- if the question is</p> <p>2 improper, it's improper. It's misleading, it's vague,</p> <p>3 it's also compound.</p> <p>4 MR. STANSBURY: I'll ask you to, again, not</p> <p>5 coach the witness.</p> <p>6 MR. LEWIS: I didn't coach the witness. What</p> <p>7 did I say to the witness there, Counsel?</p> <p>8 MR. STANSBURY: Could you please read back the</p> <p>9 last question, madam court reporter?</p> <p>10 (The record was read by the court reporter as</p> <p>11 follows:</p> <p>12 "QUESTION: And just so I make sure I</p> <p>13 understand my own point, to the extent that Dr. Amandus,</p> <p>14 working for NIOSH, may have excluded fibers shorter</p> <p>15 than" --</p> <p>16 MR. STANSBURY: Let me try to ask the question</p> <p>17 in a way that will, you know, address everybody's</p> <p>18 concerns.</p> <p>19 BY MR. STANSBURY:</p> <p>20 Q. To the extent that Dr. Amandus, working for</p> <p>21 NIOSH, may have under-counted fibers by excluding fibers</p> <p>22 shorter than 5 microns, by doing so, given the mortality</p> <p>23 and morbidity end points he worked with, that would have</p> <p>24 the effect of reporting a toxicity factor in the Libby</p> <p>25 amphibole that actually may have been higher were he to</p>	<p style="text-align: right;">Page 141</p> <p>1 ranging from 20 minutes to several hours, and were not</p> <p>2 likely to have reflected the 8-hr TWA exposure."</p> <p>3 Did I read that correctly, sir?</p> <p>4 A. Yes.</p> <p>5 Q. Do you agree with this approach?</p> <p>6 A. Well, yes, because -- well, I agree. That</p> <p>7 approach does still take place today.</p> <p>8 Q. Okay. And MESA, M-E-S-A, that no longer</p> <p>9 exists by that name, correct?</p> <p>10 A. Right.</p> <p>11 Q. What did MESA stand for?</p> <p>12 A. The Mine Enforcement and Safety</p> <p>13 Administration, I think.</p> <p>14 Q. And that was a federal agency --</p> <p>15 A. Yeah.</p> <p>16 Q. -- correct --</p> <p>17 A. Yes.</p> <p>18 Q. -- or administration. And then MSHA, that's</p> <p>19 the successor to MESA?</p> <p>20 A. Yes.</p> <p>21 Q. And what does MSHA stand for?</p> <p>22 A. Mine Safety and Health Administration.</p> <p>23 Q. Okay. And if you could turn to Table III --</p> <p>24 or page 3, Table II, excuse me. "Table II. Description</p> <p>25 of Environmental Samples," this reflects where this data</p>

Page 142

1 in this paper was collected from, correct?

2 A. Yes.

3 Q. And 789 of the samples from 1971 to 1981 were
4 collected by MESA and/or MSHA, correct, sir?

5 A. Yes, sir.

6 Q. Forty-eight of the samples from 1967 to '68
7 were collected by NIOSH, correct?

8 A. Yes.

9 Q. And then 336 samples using the mppcf
10 measurement were collected from 1956 to 1969 by the State
11 of Montana, correct?

12 A. Yes.

13 Q. And so -- and then the company between 1970
14 and 1982 collected 3,279 samples, correct?

15 A. That's what the Table II says, yes.

16 Q. Okay. And again, this is a peer-reviewed
17 study. You have no reason to dispute that, correct?

18 A. I'm sorry?

19 Q. Again, this is a peer-reviewed study. You
20 have no reason to dispute the findings of the table,
21 correct?

22 A. No.

23 Q. Okay. So it's fair to say that the exposure
24 data underlying this study was based on a large number of
25 samples, correct?

Page 143

1 A. There are a large number of samples, yes.

2 Q. Okay. Some of which were collected by the
3 State of Montana, correct?

4 A. Yes.

5 Q. And some by various federal agencies, correct?

6 A. Yes.

7 Q. Okay. Are you familiar with how he derived
8 the location operations approach to estimating exposures?

9 A. I've looked at it before.

10 Q. Okay.

11 A. I'm vaguely familiar with it.

12 Q. Okay. Do you have any reason to believe that
13 using location operations -- well, strike that.

14 Is the use of location operations to estimate
15 exposures within a facility a common practice in
16 industrial hygiene?

17 A. Well, we would typically nowadays try to
18 divide work forces up into similar exposed groups. And
19 they don't necessarily have to be in one location, they
20 could be similar groups that work in different locations,
21 but I believe this is a method that they used then.

22 Q. Okay. And you consider it a reliable method?

23 A. Well, I think "reliable" to as reliable as it
24 can be.

25 Q. Okay. Does the use of location operation

Page 144

1 cause you to have less confidence in this paper?

2 A. It could, well, particularly when workers --
3 you know, if they're in and out of different locations and
4 move a lot.

5 Q. Okay. Do you believe they try to take into
6 account the idea of individuals moving in and out of
7 locations?

8 A. I'm sure they did.

9 Q. Okay. On Table IV -- excuse me, page 4 Table
10 III, now, this table summarizes the average fiber per cc
11 values calculated from membrane filter samples collected
12 in 1967 through 1962 by location, operation, and year,
13 correct?

14 A. Um-hmm.

15 Q. "Yes," sir?

16 A. Yes.

17 Q. Okay. And I want to look at a couple of these
18 measurements. Specifically, the new wet mill, post '76,
19 the average exposure was 0.8 fibers per cc, correct?

20 A. I need to make sure I know where you're
21 looking at again.

22 Q. Sure.

23 A. You're on Table III?

24 Q. Yes.

25 A. You're looking at new wet mill?

Page 145

1 Q. Yes, post '76, after '76.

2 A. Oh, okay.

3 Q. That's 0.8 fibers per cc, correct, sir?

4 A. Yes.

5 Q. And that's based on 1,214 samples, correct?

6 A. Yes.

7 Q. Do you recall what the MSHA PEL was in 1976?

8 A. I don't recall. It could have been 5. I know
9 MSHA was always slower than OSHA in changing PEL --

10 Q. Right.

11 A. -- their limits.

12 Q. Right. But it was certainly higher than 0.8,
13 correct?

14 A. Yes, and it's -- but this number is certainly
15 higher than the current, the current exposure limit,
16 which --

17 Q. The current OSHA PEL or MSHA PEL?

18 A. The OSHA PEL.

19 Q. Right. Is it your understanding that MSHA or
20 OSHA was primarily responsible for regulating the mine?

21 A. Well, I think for the mine itself, it was
22 MSHA. And then for some of the in-town facilities, I
23 believe OSHA would have had some jurisdiction. I've had
24 this discussion --

25 Q. Right.

Page 154

PP

1 results or quantification, yeah.

2 Q. Yes.

3 A. I mean, obviously, exposure areas where
4 samples have not been taken, well, obviously, we don't
5 have any exposure data, do we?

6 Q. Right. But there was, there was an attempt to
7 address that, was there not?

8 A. Right.

9 Q. And that would be Table VI of the report,
10 correct, sir?

11 A. Yes.

12 Q. So once again, they are making a reasonable
13 effort to compensate for any limitations of the historical
14 data, correct?

15 A. I think they were doing the best they could do
16 with the data they had.

17 Q. Okay. Are there any -- strike that. Do you
18 know of any other literature other than -- let me back up
19 one second.

20 Dr. McDonald also did a study of this population,
21 correct?

22 A. Yes.

23 Q. And is it fair to say that his exposure
24 analysis has some of the same virtues and limitations that
25 we just discussed with respect to Dr. Amandus's study?

Page 155

1 A. Yes.

2 Q. Okay. Other than Dr. Amandus and
3 Dr. McDonald's papers, are you aware of any other
4 published literature which more accurately captures the
5 exposure experience within the Libby facility?

6 A. Involving the mine, no.

7 Q. Let me ask that again because you're right, I
8 should have clarified. Other than Amandus and McDonald's
9 papers, are you aware of any other published report that
10 more accurately characterizes the asbestos exposure
11 experience in the Libby vermiculite mining and milling
12 operation?

13 A. No.

14 Q. Are you aware of any unpublished papers or
15 reports that more accurately characterize the asbestos
16 exposure conditions in the Libby vermiculite mining and
17 milling operation?

18 A. I'm not.

19 Q. Okay. And you're familiar with the Sullivan
20 paper. You mentioned it earlier, correct?

21 A. Yes.

22 Q. That was published in 2008? 2007?

23 A. Pretty recently, yes.

24 Q. Fairly recently. The exposure data for that
25 paper was Amandus's paper that we just reviewed, correct?

Page 156

1 A. Yes.

2 Q. Okay. And that was also -- the Sullivan paper
3 was a peer-reviewed, published paper, correct?

4 A. Yes.

5 Q. Okay. Now, when going through your report, we
6 identified a lot of sections as dealing with Grace's
7 conduct, correct?

8 A. Yes.

9 Q. And in reaching these opinions, you developed
10 a certain amount of familiarity with the Libby vermiculite
11 mining and milling operation as a whole, correct, sir?

12 A. In reaching these opinions?

13 Q. In reaching your opinions characterizing --
14 well, let me ask it a little bit differently.

15 In order to assess Grace's conduct, you first had to
16 become very familiar with the Libby vermiculite mining and
17 milling operation as a whole, correct?

18 A. Yes. I have been, I have been assessing this
19 situation since 1996, and my opinions have not changed
20 regardless of research that I've done in terms of how I
21 think Grace behaved or the hazards of Libby amphibole.

22 Q. Right. And I guess the point I'm trying to
23 reach, though, in reaching your opinions, you had to learn
24 about what actually happened year in and year out at the
25 mining operation in Libby, correct?

Page 157

1 A. Yes.

2 Q. Okay. So it is certainly an area where you
3 consider yourself to be very familiar?

4 A. Yes.

5 Q. Okay. And part of the Libby operation
6 involved sending ore elsewhere, correct?

7 A. Yes.

8 Q. Okay. And this was unexpanded vermiculite,
9 correct?

10 A. Yes.

11 Q. And was there asbestos in that vermiculite?

12 A. Yes.

13 Q. And that asbestos would go where -- or, excuse
14 me, that vermiculite would go where?

15 A. Well, the vermiculite would go to expanding
16 plants across the country.

17 Q. Okay. Some of those plants were owned by
18 Grace, correct?

19 A. I believe some of them were.

20 Q. And some of them were not, correct?

21 A. Yes.

22 Q. For example, O.M. Scott, the fertilizer
23 manufacturing facility, expanded vermiculite, did they
24 not?

25 A. Yes.

PP

Page 158

1 Q. Okay. So that would be an example of an
2 expanding operation that was not owned by Grace, correct?

3 A. Yes.

4 Q. Okay. And the workers in those plants would
5 have been at risk of being exposed to asbestos, correct?

6 A. Yes.

7 Q. And in the case of the Marysville, Ohio
8 facility, they were in fact exposed to asbestos, correct?

9 A. Yes.

10 Q. Okay. And you have no reason to believe that
11 that would be any different in the numerous other
12 expanding plants all across the country, correct?

13 A. That workers were exposed to asbestos?

14 Q. Yes.

15 A. No.

16 Q. Right. It occurred all over the country, did
17 it not?

18 A. Yes.

19 Q. Okay. Now, are you familiar with the various
20 products that were generated using Libby vermiculite?

21 A. I am somewhat familiar with the products.
22 I've looked through the, you know, the exhibits over time
23 and saw they used it in cement and --

24 Q. So let's, if we can -- which products are you
25 familiar with?

PP

Page 160

1 Q. And what were the findings of that analysis?

2 A. Well, they're very preliminary. In fact,
3 they're still being worked up but -- so it's, I mean we --
4 fibers were detected in areas outside of the plant that is
5 no longer there.

6 Q. Okay. So this is just one example; however,
7 in this example, it illustrates that people outside of an
8 expanding plant outside of Libby - in this case, Spokane -
9 may have been exposed to asbestos that was released during
10 the expanding process, correct?

11 A. I suppose that's correct. And then the other
12 work would be - you said outside of Libby - would be
13 associated with the vermiculite grant that we're currently
14 working doing the homes.

15 Q. And this is -- oh, this is what we were
16 speaking about earlier, looking at the attic insulation.

17 A. Right.

18 Q. Right. And so that -- and, okay. Is it fair
19 to say there may be some distinctions there, though? With
20 the attic insulation, you have exposure to
21 already-expanded vermiculite, correct?

22 A. Yes.

23 Q. But there's still asbestos in it, right?

24 A. Yes.

25 Q. So there could be an exposure, correct?

Page 159

1 A. I don't know, Monokote; I don't know, other
2 types of cement products I've seen in the exhibits; the
3 insulation; foundation insulation.

4 Q. Okay. So like, for example, Monokote-3 --

5 A. Yes.

6 Q. -- that contained vermiculite and chrysotile,
7 correct?

8 A. I believe so.

9 Q. So a person who was exposed to Monokote-3 may
10 have been exposed to asbestos from Libby.

11 A. Yes.

12 Q. Okay. Similarly, a person who had Zonolite
13 attic insulation in their home, they could have been
14 exposed to asbestos from Libby, correct?

15 A. Yes.

16 Q. Okay. And to the extent that there were
17 expanding operations in various cities, to the extent that
18 there was -- well, let me rephrase this.

19 Have you studied exposures to asbestos from Libby
20 that occurred outside of Libby?

21 A. We have done some preliminary work in Spokane.

22 Q. What kind of work is this?

23 A. It was, again, through the COBRE grant. And
24 we basically did a very preliminary survey of
25 neighborhoods surrounding the Spokane expanding plant.

Page 161

1 A. We're talking about the attic insulation?

2 Q. Yes.

3 A. Yes.

4 Q. An expanding plant, by its very nature, you
5 have unexpanded vermiculite going in, correct?

6 A. Yes.

7 Q. So the people there may have been exposed to
8 unexpanded vermiculite, correct?

9 A. As well as after it's expanded.

10 Q. Right. So, but it -- certainly, the exposure
11 one would have to unexpanded vermiculite would be
12 different, potentially, in terms of potential intensity
13 than an exposure to expanded vermiculite, correct?

14 A. I mean it could be. I don't know if I've seen
15 enough data to draw any conclusions on that.

16 Q. Now, within the Libby community, is it fair to
17 say you have people - not workers, putting workers aside -
18 within the Libby community, is it fair to say that you
19 have people who were exposed in Libby to both unexpanded
20 and expanded vermiculite?

21 A. Yes.

22 Q. What would be potential expanded vermiculite
23 -- let me rephrase that.

24 What would be an example of expanded vermiculite
25 exposures that would occur in Libby?

<p>PP</p> <p>Page 174</p> <p>1 Q. Right. So these -- so that's a fair point. 2 So these are not directly correlated to airborne 3 exposures, right? 4 A. No. These are, these are media samples. 5 These are samples in a given media like bark. 6 Q. Okay. 7 A. I would certainly make no attempt to compare 8 it to, you know, airborne. 9 Q. Would you be willing to offer an opinion as to 10 what the potential airborne exposures would be from these 11 trees given those measurements, those bulk measurements? 12 A. Well, just looking at the amount in bark, no, 13 because again, that's why we've tried to conduct other 14 studies. We're trying to find out: Well, if it's in the 15 media, then how does it get out of the media? 16 Q. Right. And that's what your 2007 study 17 relates to, correct? 18 A. Right. 19 Q. So this study, this would not support an 20 opinion that there are actual exposures occurring because 21 of the asbestos that had been trapped in the barks of 22 trees. This study merely identifies the presence of 23 asbestos fibers in the barks of trees, correct? 24 A. It supports the scientific hypothesis that 25 asbestos fibers traveled through the air and deposited on</p>	<p>Page 176</p> <p>1 Q. And that translates to 5.8 million fibers per 2 cubic -- per square centimeter, correct? 3 A. Yes. 4 Q. Now, one thing I noticed was the analytical 5 sensitivity for Location 5 as opposed to Location 4. And 6 analytical sensitivity, is that the lowest level that you 7 would be able to detect? How would you describe 8 "analytical sensitivity"? 9 A. It's the lowest detect limits for a fiber that 10 a lab can do and get repeatable results. So depending on 11 what method you're collecting samples by, whether you're 12 doing like PCM analysis where they just count fibers, that 13 has a different analytical sensitivity than when they're 14 doing TEM on an air sample. And then when they're doing 15 bulk sample, so these are essentially bulk analysis, 16 there's going to be a different analytical sensitivity 17 associated with that. 18 Q. And so if I understand that correctly, 19 19 million was the analytical sensitivity for the sample from 20 Albany, New York, correct? 21 A. Yes. 22 Q. And the one, the analytical sensitivity for 23 Location 5 which was in Libby by the rail station was 1.2 24 million, correct? 25 A. Yes.</p>
<p>Page 175</p> <p>1 these trees. 2 Q. Okay. But as we stated earlier, you didn't 3 differentiate between fibers that were naturally occurring 4 as opposed to those that were released from the Grace 5 mining/milling operation, correct? 6 A. Well, in this particular paper. I told you we 7 have looked at bark samples from the same area and they 8 contained the sodium/potassium peaks. 9 Q. But you haven't reported or produced those 10 findings? 11 A. No, we haven't. 12 Q. Okay. And you certainly haven't produced them 13 in this case, correct? 14 A. That's correct. 15 Q. Okay. Looking back at the table, Location 4 16 is your control, correct? 17 A. Yes. 18 Q. And that is Albany, New York, and it's a pine 19 tree. And you detected no amphibole fibers, correct? 20 A. Correct. 21 Q. Location 5 is on the rail line, correct? 22 A. Yes. 23 Q. And you detected 19 million amphibole fibers 24 per gram of bark, correct? 25 A. Yes.</p>	<p>Page 177</p> <p>1 Q. So if there had been 10 million amphibole 2 fibers per gram of bark in the Albany, New York pine, you 3 would not have been able to detect that, correct? 4 A. Well, yeah. It's really based on their 5 ability to be able to count. Usually, TEM analysis in 6 terms of at least an air sample, they want the ability to 7 be able to see 1 fiber per square millimeter of filter 8 that they analyze. Okay? So it's really, I think, 9 related more to the type of material, the bulk of material 10 that they analyze. 11 Q. More related to the type. So why was the 12 analytical sensitivity so much lower for Location 5 as 13 opposed to the control group? 14 A. It could be because there's different types of 15 bark, different types of tree. This is a big variable in 16 all this work -- 17 Q. Right. 18 A. -- is different trees have different bark. So 19 that would be the best I can explain it. I mean Jim 20 Webber would be the best person to explain that. He's the 21 analyst. 22 Q. But, I mean, just so I -- kind of going back 23 to one of my previous questions: If there had been 10 24 million amphibole fibers per gram of bark in Location 4's 25 sample, it still would have not been detected given that</p>

Page 186

1 even find half the concentration at the road so many miles
2 down from the mine, then we could assume that the forest
3 in the same circle around that same area could be
4 similarly contaminated.

5 **Q. Did you make any effort to randomly select or**
6 **select a representative sample of the trees that were in**
7 **the area off of the mine?**

8 A. Well, we tried to -- we basically tried to
9 sample in areas which we could easily access, since we
10 were all suited up and it's very difficult work.

11 **Q. Sure.**

12 A. And so, you know, that would be a good
13 question. And basically, we tried to collect samples from
14 areas moving down from the mine off roadways as far as we
15 could get, and we did try to, over time, have tried to
16 collect samples from representative tree species.

17 How come you and I are the only ones interested in
18 this paper?

19 **Q. I think, I think it's fascinating. So, just**
20 **so I understand what you're saying: You start at the**
21 **mine, you move farther away all the way in town. However,**
22 **would you feel comfortable extrapolating these findings to**
23 **trees that were 5 to 10 miles due south of the mine?**

24 A. Well, I mean we didn't have the resources or
25 the manpower to do that sort of approach, so EPA took our

Page 187

1 -- basically what we found after we reported this to EPA,
2 then they did their sampling. They dropped people in by
3 helicopter and took samples on these lines going from the
4 mine.

5 **Q. Okay.**

6 A. In all directions.

7 **Q. So EPA's work, you believe, constitutes a more**
8 **representative analysis or -- let me rephrase that.**

9 The sampling done by EPA, in your opinion, was more
10 comprehensive in its attempt to sample a more
11 representative sample of the trees?

12 A. Representative area around the mine, yes.

13 **Q. Right, okay. And I guess, you know, I don't**
14 **-- you're not purporting to do so here. I'm just trying**
15 **to make the record clear on this. This is not a paper**
16 **that is trying to take a number of samples and then**
17 **extrapolate those findings to the forest in general.**
18 **That's not what this paper seeks to do, correct?**

19 A. I don't believe we have enough samples to do
20 that.

21 **Q. Okay. That is just what I was trying to make**
22 **clear. Moving on to page -- well, staying on page 464,**
23 **I'll move back to the figures, in the "Conclusion," and**
24 **this is, I guess, the last two sentences on this page, I'm**
25 **going to read this, and let me know if I read this**

Page 188

1 **correctly:**

2 "The result of the railroad sample raises the
3 possibility that the transportation corridors through
4 which Libby vermiculite was hauled to other locations
5 throughout the United States may also be contaminated.
6 This suggests that similar studies of bark from trees near
7 vermiculite processing sites across the country could be
8 used to determine the extent of amphibole fiber
9 contamination in those locales."

10 **Did I read that correctly, sir?**

11 A. Yes.

12 **Q. And if I understand this correctly, you're**
13 **saying that because this Libby vermiculite was taken**
14 **across the country, it is possible that we would find**
15 **exposures had occurred that resulted in asbestos fibers**
16 **being deposited in trees far, far away from the Libby**
17 **mine, correct?**

18 A. Is what it's really saying is that, you know,
19 since we've done this work, this approach has been done in
20 other areas of the country. Back in New York, they've
21 used the same approach near chrysotile mines and used to
22 identify, you know, the dispersal of asbestos. So that's
23 what really this is saying, is that this can be used as an
24 approach to track where asbestos goes.

25 **Q. Right.**

Page 189

1 A. I think that's all it's saying.

2 **Q. Well, I guess the language I focused on,**
3 **though, was: "That the transportation corridors through**
4 **which Libby vermiculite was hauled to other locations**
5 **throughout the United States may also be contaminated."**

6 A. Yes.

7 **Q. And you agree with that statement?**

8 A. Yes.

9 **Q. Okay. So it is quite possible that there are**
10 **forests outside of Lincoln County in which unexpanded**
11 **vermiculite was taken through that area and people who**
12 **engage in certain activities in that forest may be exposed**
13 **to asbestos, correct?**

14 A. Well, I don't like your use of the word
15 "forest." I mean we're talking about areas adjacent to
16 like a railroad track.

17 **Q. Okay. But trees near a railroad track,**
18 **correct?**

19 A. And I'll buy that one.

20 **Q. Okay. So let me start that over, then. Is**
21 **your opinion, then, that because unexpanded vermiculite**
22 **was sent all across the country, that it is quite possible**
23 **that there were releases of asbestos that were retained by**
24 **trees? Correct?**

25 A. Yes.

Page 206

1 would be 0.11 fibers per cc if we were to count all
2 fibers, including those shorter than 5 microns, correct?

3 A. Are we looking at the last column? Where are
4 we looking at?

5 **Q. The last column, the chain saw operator.**

6 A. Chain saw operator. So for that number of
7 samples, pretty limited number of samples, yeah, we found
8 that number.

9 **Q. Right. And again, just so the record's clear,**
10 **this is what the paper states is a worst-case scenario of**
11 **potential exposure, correct?**

12 A. Well, we called it "worst case" simply because
13 we felt that the mine would be most likely to have the
14 highest contamination. We were on the mine road.

15 **Q. Right, right. So --**

16 A. Is that worse than being somewhere else on the
17 mine road? I don't know.

18 **Q. But in terms of being somewhere in Lincoln**
19 **County forest area using a chain saw, an area that is away**
20 **from the mine, you would not expect to see exposures**
21 **higher than this, would you?**

22 A. If we knew that the concentration in the media
23 was less, yeah. We would assume that it would be less.

24 **Q. You would assume it would be less, right.**

25 A. But, you know, you can't make those

Page 207

1 conclusions unless you knew.

2 **Q. But again, you would not extrapolate these**
3 **measurements to other parts of the forest without some**
4 **form of measurement done in advance, correct?**

5 A. Right. And we haven't attempted to do that.

6 **Q. Okay. So I just want to make sure the**
7 **record's clear that you were not stating based upon this**
8 **paper, you believe similar exposures are occurring**
9 **throughout the Lincoln County forest, correct?**

10 A. Right. A very limited number samples, a pilot
11 study, preliminary data, the only thing we can say from
12 this study, basically, is that if you work on contaminated
13 trees, you can put fibers into the air or get them on your
14 clothes.

15 **Q. Okay. And but fair to say, you stated**
16 **earlier, at the confirmation hearing, you are not going to**
17 **offer an opinion about any specific individual's potential**
18 **exposures from having worked as a chain saw operator in**
19 **Lincoln County, correct?**

20 A. No.

21 **Q. Okay.**

22 MR. LEWIS: That's a double-negative, Counsel.
23 You asked -- I don't think you want the answer to stand as
24 stated.

25 MR. STANSBURY: Could you repeat the last

Page 208

1 question?

2 MR. LEWIS: But the answer is "no," he's not
3 going to be offering any testimony on that last subject.

4 (The record was read by the court reporter as
5 follows:

6 "QUESTION: But fair to say, you stated
7 earlier, at the confirmation hearing, you are not going to
8 offer an opinion about any specific individual's potential
9 exposures from having worked as a chain saw operator in
10 Lincoln County, correct?

11 "ANSWER: No.")

12 MR. STANSBURY: Is that a double negative?

13 MR. LEWIS: Yeah, it is.

14 MS. ROHRHOFFER: I'm not an English major. I
15 think --

16 MR. LEWIS: You asked if it's correct that
17 he's not going to, and he said "no."

18 But anyway, he's not, just for the record,
19 he's not going to offer any testimony as to that last
20 question.

21 MR. STANSBURY: I'll ask him one more time.

22 BY MR. STANSBURY:

23 **Q. You're not going to offer any -- is it correct**
24 **to say that you will not offer any testimony at the**
25 **confirmation hearing about an individual's potential**

Page 209

1 **exposures from sawing, hauling, or stacking wood in the**
2 **Libby forest?**

3 A. That would be correct.

4 **Q. Okay.**

5 MR. STANSBURY: I appreciate you looking out
6 for me, Tom.

7 MR. LEWIS: Well --

8 MR. STANSBURY: That's good. You're right.

9 MR. LEWIS: It doesn't have any -- he's not
10 going to testify about that.

11 **Q. (By Mr. Stansbury) And we stated earlier that**
12 **your 2009 paper was not in your expert report, correct?**

13 A. Correct.

14 **Q. And you don't intend to offer any testimony**
15 **related to that at the confirmation hearing, correct?**

16 A. No.

17 **Q. Okay. And again so the record's clear, we**
18 **looked through your report and although we did see**
19 **references where you were talking about medical findings,**
20 **you yourself are not a medical doctor, correct?**

21 A. That's correct.

22 **Q. You don't intend to offer any medical**
23 **testimony about asbestos disease, correct?**

24 A. No.

25 **Q. Okay. Nor are you a toxicologist, correct?**

<p style="text-align: right;">Page 210</p> <p>PP</p> <p>1 A. That's correct.</p> <p>2 Q. You do not intend to offer opinions about</p> <p>3 toxicity of amphiboles in Libby, correct?</p> <p>4 A. Correct.</p> <p>5 MR. LEWIS: Don't ask these questions over</p> <p>6 again. Please don't. They're repetitive.</p> <p>7 Q. (By Mr. Stansbury) Nor are you an</p> <p>8 epidemiologist, correct?</p> <p>9 A. Correct.</p> <p>10 Q. You're not going to offer epidemiological</p> <p>11 opinions, correct?</p> <p>12 A. That's correct.</p> <p>13 Q. Okay.</p> <p>14 MR. STANSBURY: Pass the witness.</p> <p>15 MR. LEWIS: Okay. Did we get -- what you</p> <p>16 referred to as the "Amandus study", was that marked?</p> <p>17 MR. STANSBURY: I believe it was.</p> <p>18 MR. LEWIS: Is that 7?</p> <p>19 MS. ROHRHOFER: Yeah, Exhibit 7.</p> <p>20 MR. LEWIS: Okay, thanks. Let me check. I</p> <p>21 probably don't have any questions.</p> <p>22 (Pause in proceedings.)</p> <p>23</p> <p>24 BY MR. SPEAR:</p> <p>25 Q. I guess I want to clarify one thing,</p>	<p style="text-align: right;">Page 212</p> <p>1 Q. All right.</p> <p>2 A. I mean I just know that because of our work</p> <p>3 with the Forest Service, we had to have access to that</p> <p>4 map. I mean we've, we've been working with EPA.</p> <p>5 Q. And that's the Forest Service work that you're</p> <p>6 engaged in right now that's not been completed --</p> <p>7 A. Yes.</p> <p>8 Q. -- is that correct?</p> <p>9 A. Yes.</p> <p>10 Q. All right. Do you know where that map can be</p> <p>11 found?</p> <p>12 A. I don't know what you mean. I have it, the</p> <p>13 Forest Service has it, EPA has it. I don't know if</p> <p>14 they've released the map.</p> <p>15 Q. Okay.</p> <p>16 A. I just don't know. I'm just being honest with</p> <p>17 you, I don't know.</p> <p>18 Q. Okay.</p> <p>19 A. I mean it isn't in a publication because we</p> <p>20 don't, we don't know if we have the right to put that in</p> <p>21 there.</p> <p>22 Q. And you do not, is it -- I don't know if you</p> <p>23 testified about this: Do you or do you not intend to rely</p> <p>24 on that map for your testimony in this case?</p> <p>25 A. Well, to me, it described the spread of</p>
<p style="text-align: right;">Page 211</p> <p>1 Dr. Spear. The EPA studies that you considered, you</p> <p>2 referred to some studies by Paul Peronard. Do you recall</p> <p>3 that?</p> <p>4 A. Yes.</p> <p>5 Q. Are those studies that you referenced all</p> <p>6 publicly available?</p> <p>7 A. Yes. They're on the EPA Web site, I believe.</p> <p>8 Q. Is that how you obtained them?</p> <p>9 A. Yes.</p> <p>10 Q. Okay. And does that include the bark studies</p> <p>11 and the map prepared by the EPA? Is that on the Web site</p> <p>12 as well?</p> <p>13 A. That's a good question.</p> <p>14 Q. Do you know when that study and that map was</p> <p>15 made available to the public or -- let me finish. Let me</p> <p>16 withdraw the question.</p> <p>17 Do you know when that EPA study, the bark study and</p> <p>18 the map that you described, was issued by the EPA?</p> <p>19 A. My recollection is it was in 2008.</p> <p>20 Q. Do you know if it was before or after your</p> <p>21 report?</p> <p>22 A. Before or after this report.</p> <p>23 Q. Your expert report.</p> <p>24 A. My expert report. I guess I don't know the</p> <p>25 exact timeline.</p>	<p style="text-align: right;">Page 213</p> <p>1 asbestos from the, from the mine. But I don't -- I</p> <p>2 haven't offered it as an opinion, so I just brought it up</p> <p>3 in the case of cross-examination, so I probably wouldn't</p> <p>4 rely on it.</p> <p>5 Q. Okay. You, in your report --</p> <p>6 MR. LEWIS: Excuse me, Counsel.</p> <p>7 Q. (By Mr. Lewis) I'll refer you to Exhibit 4.</p> <p>8 You talk about a harvest location.</p> <p>9 A. Looking at the map?</p> <p>10 Q. Yes, it's Figure 1 on page 719.</p> <p>11 A. Okay.</p> <p>12 Q. I want to clarify. The harvest location was</p> <p>13 not on the mine site. Is that true or untrue?</p> <p>14 A. That is true.</p> <p>15 Q. Okay. Do you know where the screening, what</p> <p>16 has been called the "screening plant" is located on the</p> <p>17 Kootenai River?</p> <p>18 A. By the -- yes.</p> <p>19 Q. Okay. Is that at the intersection of the</p> <p>20 river and Rainey Creek Road?</p> <p>21 A. Yes.</p> <p>22 Q. How far was the harvest location from the</p> <p>23 screening plant?</p> <p>24 A. Well, what did we say -- whatever the distance</p> <p>25 was given up that road. I think we state 1.5 kilometers.</p>